

ER-2 Flight Summary

Mission: Mission 2

Flight Scientists: S. Platnick, P. Newman

Sortie: 02-947

Date: Wednesday, 7 July 2002

Pilot: J. Barrilleaux

Takeoff: 1200 EDT (1600 UTC)

Landing: 1840 EDT (2240 UTC)

Duration: 6:40

Objectives:

Convection was expected over the interior panhandle and along the western coast. Weak upper level westerly flow out of the southeast was expected to blow anvils out over the gulf. The scenario developed as expected.

The ER-2 headed north out of Key West and pickled a sonde over the gulf, at a latitude approximately equivalent to that of the western ground site. The ER-2 then flew a fixed racetrack pattern with the western leg centered over the western ground site and oriented along the coast. The racetrack offset is approximately 14 nautical miles. As convection developed and anvils advected to the west, the racetrack was repositioned (in increments of a racetrack width) to the southwest by NPOL.

Satellite or fixed coordination:

Satellites (relative to western site):

Aqua – 1810 UTC, VZA = 55 deg.

Terra – 1639 UTC, VZA = 49 deg.

NOAA16 – 1902 UTC, VZA = 1 deg.

Western ground site:

PARSL, Everglades National Park, Gulf Coast Visitor's Center
25 50.7 N, 81 23.15 W

ER-2 overpasses of western site:

16:49:29 UT, Min dist.= 0.83km

17:31:48 UT, Min dist.= 0.58km

18:15:28 UT, Min dist.= 0.89km

Eastern ground site:

Kendall-Tamiami Airport

25 39.3 N, 80 25.9 W

No overpasses within 10 km.

22:15:49 UT, Min dist.= 5.77km

Aircraft coordination:

Nominal take off times (local): WB-57 (1300), Proteus (1130), Citation (1400), Twin Otter (0830 + 2nd flight at 1300), P-3 (1200). P-3 had to return soon after takeoff.

WB-57: In situ sampling in anvil regions of opportunity as anvils advect to the west.

Proteus: Fly along the ER-2 track as much as is feasible. Coordinate with ER-2 over the western ground site (western most ER-2 leg) until aircraft are re-directed.

Aircraft issues:

Pilot did not turn on superpod heaters until 1 hour into flight. Consequences to MAS and CPL data system; perhaps CoSSIR as well.

Summary/highlights:

- Variety of cloud types/fields throughout the day. Excellent coordination with Proteus (achieved center track coordination on each western-most leg of the ER-2 racetrack).

- **D**ropsondes: 4 out of 6 collected data

#1: 1629 UTC

#2: 1939 UTC

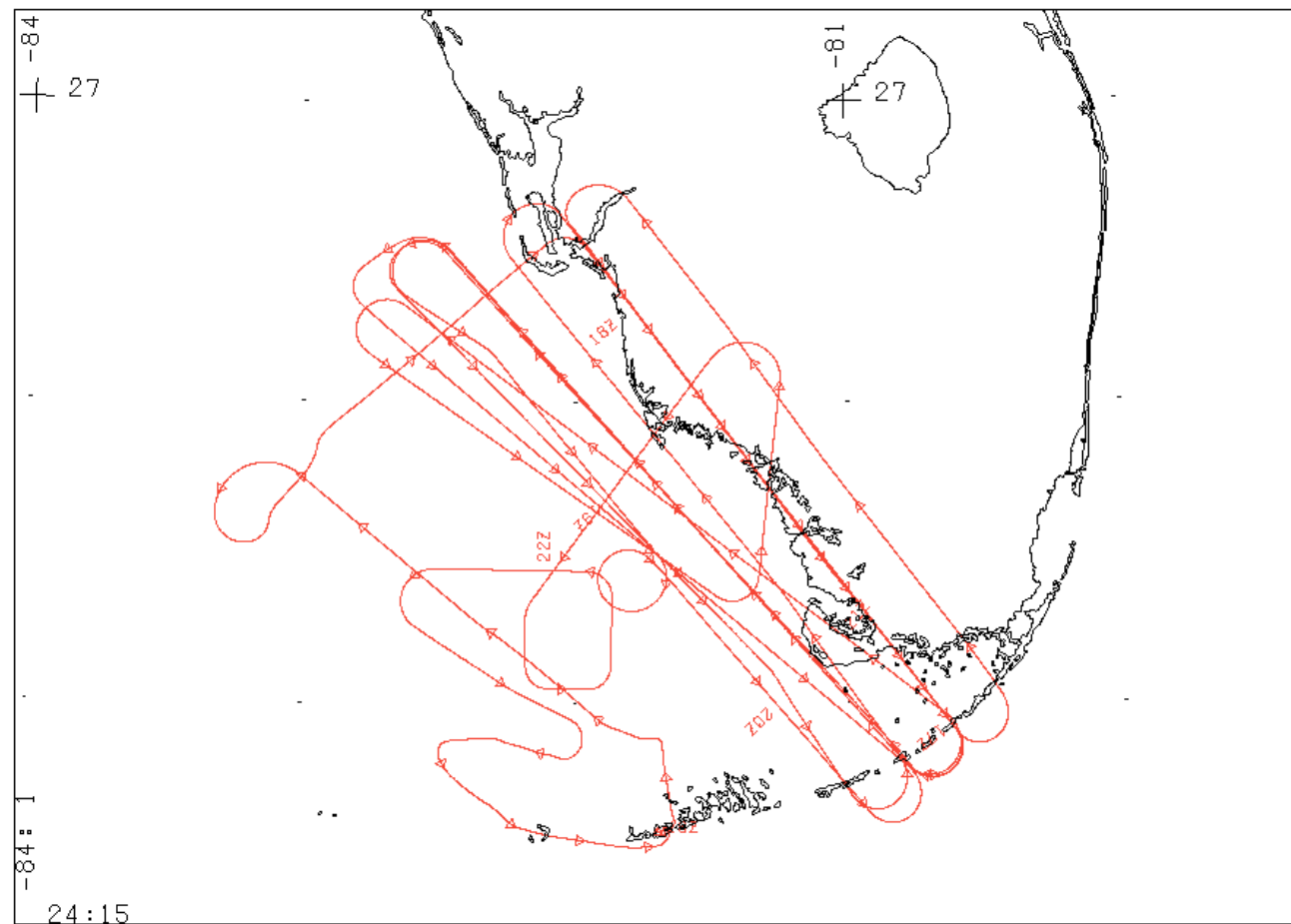
#4: 2043 UTC

#5: 2150 UTC

ER-2 science instrument payload and status:

Instrument	Status	Notes
CoSSIR Conical Scanning Sub-mm wave Imaging Radiometer	P	Missing 487 Ghz data for latter portion of flight (starting at ~1730 UTC)
CPL Cloud Physics Lidar	G	Missing ~ 1 hour of data due to late turn on of pod heaters
CRS Cloud Radar System	G	
EDOP ER-2 Doppler Radar	G	
JLH JPL Laser Hygrometer	F	Laser failed – awaiting replacement
MAS MODIS Airborne Simulator	G	~20% of scans (random) not recorded due to late turn on of pod heaters at ~1 hour into flight, and resulting condensation on data system; 11 μ m channel coherent noise fixed
MMS Meteor. Meas. System	G	
MTP Microwave Temperature Profiler	G	
RAMS Radiation Meas. System	G	
SSFR Solar Spectral Flux Radiometer	G	
Dropsonde	G	Data for 4 sondes collected (out of 6)

G = good; P = partial data collected; F = failure, no data



FLIGHT 02-947 7 JULY 2002 A/C 809 CRYSTAL/FACE
 LAMBERT CONFORMAL PROJECTION: SP1 = 33.0 SP2 = 45.0 CM = -81.9 ROTATED BY 0.0
 16:00:00 TO 22:40:00 UT SCALE 1:2.00E+06 TIME TICK EVERY 5.00 MINUTES